

REZNIKOV, A.N.; MOVMYGA, G.T.

Reservoir conditions in the Upper Cretaceous pool in the Selli  
field. Izv. vys. ucheb. zav.; neft' i gaz 5 no.7:113-114 '62.  
(MIRA 16:7)

1. Groznenskiy neftyanoy institut.  
(Petroleum geology)

YASHIN, Gennadiy Georgiyevich; REZNIKOV, A.N., prof., ovshchestv.  
red.; PETROPOL'SKAYA, N.Ye., red.; DURASOVA, V.M., tekhn.  
red.

[New design of chip-breaking drills] Struzhkolomaiushchie  
sverla novoi konstruktsii. Kuibyshev, Kuibyshevskoe  
knizhnoe izd-vo, 1962. 49 p. (MIRA 16:6)  
(Twist drills)

REZNIKOV, A.N.; TSIRULINA, Ye.A.

Forces of cutting and the purity of the finished surface in the  
turning of high-precision plastic articles. Plast.massy.  
no.5:36-40 '63. (MIRA 16x6)

(Plastics)

EWP(j)/EWT(m)/BDS--AFFTC/ASD--Pc-l--RM  
L 10780-63

ACCESSION NR: AP3000400

S/0191/63/000/005/0036/0040

AUTHOR: Reznikov, A. N.; Tsirulina, Ye. A. 60

TITLE: Cutting forces and surface finish in turning plastic parts of increased precision

SOURCE: Plasticheskiye massy, no. 5, 1963, 36-40

TOPIC TAGS: plastics machining, cutting force, cutting rate, emulsion, polystyrene

ABSTRACT: The Nauchno-proizvodstvennaya instrumental'naya laboratoriya Kuyby'shevskogo politekhnicheskogo instituta (Scientific-Industrial Tool Laboratory of the Kuyby'shev Polytechnic Institute) has developed the optimum tool geometry and cutting rates for turning PTZ plastic parts (emulsion polystyrene filled with fired titanium dioxide). Fusion of this plastic in turning can therefore be eliminated, and high-precision machining is thus made possible. Study of the effect of cutting rates and tool material and geometry on cutting forces, surface finish, and chip shrinkage showed that the best results are produced by tungsten-titanium T14K8 and T15K6 carbide tools [14 and 15% TiC and 8 and 6% Co,

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respectively, balance WC] with rake angle of 15 to 18°, relief angles of 15 to 20°, speeds of 150 to 200 m/min, and feeds below 0.15 mm/rev. The end cutting edge (0.5 to 0.8 mm wide) should be ground parallel to the axis of the workpiece. Orig. art. has: 5 figures, 3 formulas, and 4 tables.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 10Jun63

ENCL: 00

SUB CODE: MA, IE

NO REF SOV: 002

OTHER: 000

Card

*mcs/cs*  
2/2

REZNIKOV, A.N.

Iron-manganese coefficient as an indicator of sedimentation conditions as exemplified by the Chokrak sediments of the Groznyy oil-bearing area. Izv. vys. ucheb. zav.; neft' i gaz 4 no.1:19-22 '61. (MIRA 15:5)

1. Groznen'skiy neftyanoy institut.  
(Groznyy Province--Clay)

REZNIKOV, A.N.

Characteristics of the formation of the clay series in the Chokrak horizon of the groznyy oil region based on the Fe and Mn differentiation. Izv. vys. ucheb. zav.; neft' i gaz 4 no.5:13-17 '61.  
(MIRA 15:2)

1. Groznenskiy neftyanoy institut.  
(Groznyy Province--Petroleum geology)

REZNIKOV, Aron Naumovich, doktor tekhn. nauk; LIMONOV, Igor' Pavlovich;  
PILINSKIY, Veniamin Isaakovich; YASHIN, Gennadiy Georgiyevich;  
MIKHEYEV, N.I., red.; DURASOVA, V.M., tekhn. red.

[Metal-cutting tools for automatic and semiautomatic machine  
tools] Rezhushchii instrument dlia avtomatov i poluavtomatov.  
Kuibyshev, Kuibyshevskoe knizhnoe izd-vo, 1961. 153 p.  
(Metal-cutting tools) (Automation) (MIRA 15:1)

REZNIKOV, A.N.; KHMELEVSKIY, S.A.; KACHER, V.A.

A useful seminar. 'Mashinostroitel' no.3:44 Mr '61. (MIRA 14:3)  
(Technical education)

REZNIKOV, A. N.

Cand Geol-Min Sci - (diss) "Distribution of several chemical elements in the clayey rock mass of the Chokrakskiy Level of the Groznenskiy Petroleum-Bearing Rayon and paleographic problems related thereto." Baku, 1961. 13 pp; (Academy of Sciences Azerbaydzhan SSR, Inst of Geology imeni Academician I. M. Gubkin); 250 copies; free; (KL, 6-61 sup, 204)

REZNIKOV, Aron Naumovich (Kuybyshev Industrial Institute im. Kuybyshev)  
for Doc of Technical Sci on the basis of dissertation defended 16 Dec 59  
in Council of Tomsk Order of Labor Red Banner Polytechnical Institute im.  
Kirov, entitled: "<sup>The Temperature</sup> Thermal Field and <sup>Thermal Currents</sup> ~~Heat Streams~~ Generated in the Cutting  
~~Process~~ of Metals." (BIVISSO USSR, 2-61, 30)

REZNIKOV, A.N.

Characteristics of upper Cretaceous sediments in the Argun  
Valley. Geol. zhurn. 1961, 2:26-30 P. 131. (Lit. 14:2)

1. Gromenskiy neltzanyy (neltzanyy).  
(Argun Valley--Geology, Stratigraphy)

PHASE I BOOK EXPLOITATION

SOV/5155

Reznikov, Aron Naumovich, Candidate of Technical Sciences

Temperatura i okhlazhdeniye rezhushchikh instrumentov (Temperature and Cooling of Cutting Tools) [Kuybyshev] Kuybyshevskoye knizhnoye izd-vo, 1959. 171 p. 2,000 copies printed.

Ed.: N. Ye. Petropol'skaya; Tech. Ed.: Ye. A. Yashen'kina.

PURPOSE: This book is intended for technical personnel at enterprises, scientific workers, and students at schools of higher education.

COVERAGE: The author examines the basic means for determining and utilizing the additional performance capacities which result from controlling the thermal phenomena occurring during the cutting process. The book is based on Soviet and non-Soviet experience and on theoretical and experimental research carried out by the author or by others under his supervision at the Kuybyshevskiy industrial'nyy institut

~~Card 1/7~~

Temperature and Cooling (Cont.)

SOV/5155

(Kuybyshev Industrial Institute) and the ordena Lenina gosudarstvenniy podshipnikoviy zavod (Order of Lenin State Ball Bearing Plant). Included are an account of the "method of heat sources" and an analytical analysis of temperature fields in metal cutting based on this method. Formulas, graphs, and tables for calculating the temperature of the workpiece, single-point tool, and the chip are also given together with methods for measuring these temperatures. As an aid to designers and process engineers, initial data are given for the design and efficient use of high-production cooled tools. No personalities are mentioned. There are 55 references: 51 Soviet, 3 English, and 1 German.

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REZNIKOV, A. V.

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TABLE I BOOK EXPLANATION

Abstrakty mekhn. ESSR. Razvitie mashinostroyeniya

Instrumental'nye razrabotki materialov (Cutting-Tool Materials)  
Moscow, Izd-vo IS ESSR, 1960. 137 p. 6,000 copies printed.

Beop. Ed.: A. I. Tsaryov, Doctor of Technical Sciences, Professor;  
M. of Publishing House: G. B. Gorabov; Tech. Ed.: N. V. Yegorova.

PURPOSE: This collection of articles is intended for scientific personnel  
and production engineers engaged in the manufacture and use of cutting tools.

CONTENT: The collection contains papers read at a seminar on cutting-tool  
materials organized and sponsored by the Ministry of Technological Machinery-  
Building (Commission on Processing in Machine Building). The seminar investigated  
the cutting properties of ceramic and carbide tool materials, the effect of  
temperature on cutting edges, the problem of wear, and the possibility of  
using cutting tools more efficiently. No formalities are mentioned.  
References accompany each article. There are 21 references: 12 in Russian and  
9 English.

Author: A. V. Reznikov [Distribution] on the surfaces of the cut-  
ting tools, and the wear of cutting edges 49

Eluskin, N. I. On Calculating the Strength of the Cutting Portion of  
Tools 63

Irenchenko, B. A. Pressure on the Flank of the Tool 71

Letmal'son, V. Yu. Special Features of the Wear of Hard Alloys in  
Turning Coarse Chips 79

Maslov, E. I. Mechanics of Wear of Hard-Alloy Cutting Tools 92

Lambert, B. D. Investigating the Intensity of Wear of a Hard-Alloy Tool 106

Mikarov, A. D. Problems of Accuracy and Surface Roughness in the Fine  
Turning of Steels With TiN-Coated Ceramic Single-Point Tools 115

Itkin, M. E., and S. S. Kuzidonov. Machining High-Strength Steels With  
Ceramic-Tipped Single-Point Tools 128

AVAILABLE: Library of Congress  
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W/ory/rel  
5-15-61

REZNIKOV, Aron Naumovich, kand.tekhn.nauk; PETROPOL'SKAYA, N.Ye., red.;  
YASHEN'KINA, Ye.A., tekhn.red.

[Temperature and cooling of metal-cutting tools] Temperatura  
i okhlazhdenie rezhushchikh instrumentov. Kuibyshev, Kuiby-  
shevskoe knizhnoe izd-vo, 1959. 171 p.

(MIRA 13:12)

(Metal-cutting tools--Cooling)

Reznikov, A.N.

PHASE I BOOK EXPLORATION 50V/3282

Abdumalyk mukh SSSR. *Konstruktsiya po tekhnologii mashinostroyeniya*  
Otkrytoya shirokoprofilnaya splavov (Treatment of Heat-Resistant Alloys) Moscow,  
Izd-vo MI SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agency: Abdumalyk mukh SSSR. Nauchnyy sovet po problemam shirokopro-  
filnaya splavov.

Resp. Ed.: V.I. Dikubnik, Akademiya Nauk SSSR, Nauchnyy Dom: V.A. Kotov;  
Tech. Ed.: V.Y. Ditsel'.

REPORT: This collection of papers is intended to summarize current information  
on the treatment of heat-resistant alloys with a view toward coordination fur-  
ther research.

COMMENTS: The book is a collection of papers presented at the Conference on Heat-  
Resistant Alloys, held 18-21 December 1957 by the Commission on Machine-Con-  
struction Technology of the Institut mashinostroyeniya MI SSSR (Institute of  
Machine Science, Academy of Sciences USSR). The thirty papers in the

collection deal with the casting, pressure working, welding, and quenching of  
heat-resistant alloys. No personal files are included. References accompany  
several of the articles.

Reznikov, A.N. Heat Distribution between Workpiece and Tool in the Machining  
of Heat-Resistant Alloys and Steels 162

Kozublik, A.S. Investigation of Some Factors in the Machinability of  
the K18T Alloy 175

Ernst, A.Z. Electric-Pulse Machining of Heat-Resistant Materials With  
Yttrium Ethyl Cell Cathode 190

Dobrov, I.G. High-Speed Milling of Heat-Resistant Materials With  
Resistant Steels and Alloys With Face Milling Cutters 195

Uryalov, Z.A. Productivity Increase in the Machining of Heat-  
Resistant Steels and Alloys With Face Milling Cutters 202

Salpina, A.Sh. Non-Sortet Experience in the Machining of Stainless  
and Heat-Resistant Steels and Alloys 207

Vasil'yev, D.I. Tool Life in the Machining of High-Strength Metals  
Card 3/5

REZNIKOV, A.N.

Comparative geochemical characteristics of the lower Chokrak  
sediments in the Chernogorsk monocline and Terek Range (eastern  
Ciscaucasia) based on spectral analysis data. Izv.vys.ucheb.  
zav.; neft' i gaz 2 no.11:17-18 '59. (MIRA 13:4)

1. Groznenskiy neftyanoy institut.  
(Caucasus, Northern--Metals)

REZNIKOV, A. O.

AID - P-63

Subject : USSR/Astronomy  
Card : 1/2  
Author : Reznikov, A. O.  
Title : Models of Stars with Isothermal Nuclei  
Periodical : Astron. zhur., V. XXXI, 1, 60-79, Ja - F 1954  
Abstract : Models of stars composed of an isothermal non-degenerated nucleus and a radiating envelope containing any conceivable amounts of hydrogen are studied. Part I contains expressions for the definition of different physical characteristics. In Part II the results are applied to two models with a pure dispersing and a pure absorbing envelope. Conclusion: models studied cannot explain the red giants because of small radii and the existence of certain upper limit for the mass, beyond which further degeneration is impossible. Six diagrams, 2 tables, a number of equations and formulae are

AID - P-63

Astron. zhur., V. XXXI, 1, 60 - 79,

Ja - F 1954 (additional card)

Card : 2/2

given. The article is based on and develops the research of A. G. Masevich, Henrich, S. Chandrasekhar, Shoenberg, A. M. Bondi, S. Sorokin. The bibliography mentions 10 references (5 Russian).

Institution : None

Submitted : November 15, 1952

REZNIKOV, A.O.

Stars with isothermal degenerate cores. Astron.zhur. 33 no.5:  
654-659 S-O '56. (MLRA 9:12)

(Stars)

REZNIKOV, A.O.

Stars with isothermal nuclei. Astron.zhur. 33 no.2:151-160 Mr-Apr  
'56. (MLRA 9:8)

(Stars--Constitution)

REZNIKOV, A. O.

"Models of Stars With Isothermal Interiors." Cand Phys-  
Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov,  
17 Nov 54. (VM, 9 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR  
Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

REZNIKOV, A.O.

Star models with isothermic cores. Astron.zhur.31 no.1:60-79  
Ja-F '54.

(MLRA 7:2)  
(Stars)

REZNIKOV, A. P.

*Rezv* Peculiarities of the lithology of Carboniferous deposits of coal in the northern Caucasus. A. P. Reznikov. *Trudy Lab. Geol. Uglyn, Akad. Nauk S.S.S.R.* 3, 207-10 (1950). The rock types encountered in coal deposits of the northern Caucasus are classified, according to their geol. origin, phys. characteristics (e.g., grain size), and location. C. H. P.

REZNIKOV, A.P.

A.E.Lagorio's role in the development of petrology. Och.po ist.  
geol.znan. no.5:260-273 '56. (MLRA 9:11)  
(Petrology) (Lagorio, Aleksandr Evgen'evich, 1852-ca.1925)

ALEKSANDROV, A.F.; REZNIKOV, A.P.

Minor elements in the sediments of the Sea of Azov. Okeanologia 4  
no.4:651-653 '64. (MIRA 17:10)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.

15-57-4-4047

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4,  
pp 2-3 (USSR)

AUTHOR: Reznikov, A. P.

TITLE: A. Ye. Lagorio and His Role in the Development of  
Petrography (A. Ye. Lagorio i yego rol' v razvitii  
petrografii)

PERIODICAL: V sb: Ocherki po istorii geol. znaniy. Nr 5, Moscow,  
AN SSSR, 1956, pp 260-273.

ABSTRACT: The scientific works of A. Ye. Lagorio (1852-1925) were  
mainly devoted to genetic petrography, to questions  
concerning the crystallization of magma, and to the  
causes for the differences in extrusive rocks. From  
1870 to 1890, when most petrographers were so enthusi-  
astic about the microscopic description of rocks, A. Ye.  
Lagorio countered this direction in petrography with  
the genetic approach based on the chemical and physical-  
chemical foundation. He was the first man in the  
history of petrography to demonstrate that magma is a

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15-57-4-4047

A. Ye. Lagorio and His Role in the Development of Petrography (Cont.)

solution of different definite silicates occurring in indefinite proportions. Proceeding from this fact, he decided many questions about the crystallization of magma and the sequence in which the minerals separated out of it. Special importance may be ascribed to Lagorio's work on the crystallization of magmatic fluids, to the formation of minerals in magma, and in particular, to his work on pyrogenic corundum, its origin and its occurrence (1895). Lagorio and his students were the first to get artificial minerals of large sizes under the laboratory and industrial conditions.

D. I. G.

Card 2/2

BRONSKIY, M.I., dots.; REZNIKOV, A.P., dots.; YAKOVLEV, V.P.,  
aspirant; ZHDANOV, Yu.A., prof., red.; KORNILOV, Ye.A.,  
red.; PAVLICHENKO, M.I., tekhn. red.

[V.I.Vernadskii; on the 100th anniversary of his birth]  
V.I.Vernadskii; k stoletiiu so dnia rozhdeniia. Rostov-na-  
Donu, Izd-vo Rostovskogo univ., 1963. 102 p.

(MIRA 16:12)

1. Rostovskiy gosudarstvennyy universitet (for Bronskiy,  
Reznikov).

(Vernadskii, Vladimir Ivanovich, 1863-1945)

REZNIKOV, A.P.

Structural and petrographic studies of middle Carboniferous  
sediments in the Greater Zelenchuk Basin (Northern Caucasus).  
Uch. zap. RGU 44:119-134 '59. (MIRA 14:1)  
(Zelenchuk Valley--Sediments (Geology))

REZNIKOV, A.P.

Jozef Morozewicz; on the 90th anniversary of his birth. Uch. zap.  
RGU 44:217-218 '59. (MIRA 14:1)  
(Morozewicz, Jozef, 1865-1941)

REZNIKOV, A.P.

Lithological characteristics of carbonaceous deposits of coal in  
the Northern Caucasus. Trudy Lab.geol.ugl. no.5:207-216 '56.  
(MLBA 9:8)

1. Rostovskiy na-Donu gosudarstvennyy universitet.  
(Caucasus, Northern--Coal geology)(Caucasus, Northern--Petrology)

REZNIKOV, A.P.

✓ 4324. PECULIARITIES OF THE LITHOLOGY OF CARBONIFEROUS COAL DEPOSITS IN  
NORTH CAUCASUS. Reznikov, A.P. (Pap. to 2nd Coal-Geol. Conf., Leningrad,  
1955; Trud. Lab. Geol. Ulyss. (Proc. Lab. Geol. Coal) Acad. Sci. U.S.S.R.), 1956,  
(5), 207-216. (L).

*av-6*

REZNIKOV, A.P.

Geology at Warsaw University (1869-1915). Och. po ist. geol. znan.  
no. 4: 187-212 '55. (MIRA 9:5)  
(Geology--History)

CA

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The influence of boron on seed production by lupines  
A. P. Reznikova, *Sov. Agron.* 8, No. 2, 91-5 (1950)  
Dipping the seed in a soln. contg. 7.8 g of B/100 kg of  
seed and adding 3 kg. of B/ha. of soil for blue lupines  
have increased the yield of seed up to 2.7 centners/ha.  
I. S. Joffe

Ussr/Cultivated Plants - Medicinal. Essential Oil-Bearing. M.  
Toxins.

Acc Jour : Red Jour - Biol., No 10, 1958, 44391

Author : Roznikov, I.R.

Inst : All-Union Scientific Research Institute for Oil-Bearing  
and Essential Oil Producing Crops.

Title : Separation and Harvesting of Coriander.

Orig Pub : Byul. nauch. izvest. Vses. s.-i. in-ta, sel'sk. i zhivo-  
sel'sk. kul'tur, 1957, No 3, 43-46.

Abstract : No abstract.

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ALEKSEYEVA, Ye.I., kand. sel'khoz. nauk; BUZINOV, P.A., kand. sel'khoz. nauk; VODCLAGIN, V.D.; VOLKHOVSKAYA, U.V.; GLUSHCHENKO, N.N., kand. biol. nauk; GURVICH, N.L., doktor biol. nauk; ZHELEZNOV, F.A., kand. sel'khoz. nauk; KSENDZ, A.T.; LESHCHUK, T.Ya.; LUK'YANOV, I.A., kand. sel'khoz. nauk; MAYCHENKO, Z.G., kand. sel'khoz. nauk; TANASIYENKO, F.S., kand. khim. nauk; ZNAMENSKIY, M.P.; PERSIDSKAYA, K.G.; PODLESNOVA, A.F.; ROGOCHIY, I.Ya.; REZNIKOV, A.R.; SHUL'GIN, G.T.; KHOTIN, A.A., doktor sel'khoz. nauk; LAPSHINA, O.V., red.; MINENKOVA, V.R., red.; MAKHOVA, N.N., tekhn. red.; BALLOD, A.I., tekhn. red.

[Aromatic plants] Efiromaslichnye kul'tury. Moskva, Sel'-khozizdat, 1963. 358 p. (MIRA 16:12)  
(Ukraine--Aromatic plants)

REZNIKOV, A.S.

The SAN motorbus. Avt.prom. no.2:41-42 P '60. (MIRA 13:5)  
(Poland--Motorbuses)

KNOROZ, V.I., kand. tekhn. nauk; REZNIKOV, A.S.; GUBAREV, G.V.

Selecting tires for motor buses. Avt. prom. 29 no.11:19-23  
N 163. (MIRA 16:12)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni  
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.

S/113/60/000/002/009/009  
D207/D306

AUTHORS: Reznikov, A. S. and Moskalev, V. N.

TITLE: Powder electromagnetic automobile clutch couplings

PERIODICAL: Avtomobil'naya promyshlennost', no. 2, 1960, 42-45

TEXT: The article describes the principle of the powder electromagnetic clutch, discusses some western clutches of this type and proceeds to describe the Soviet HAMM (NAMI) cylindrical powder electromagnetic clutch (Fig. 5). The magnetic system is situated directly in the flywheel and the whole clutch weighs 22 kg. The excitation winding is fed from the armature of the engine generator but draws its current from the battery until sufficient revolutions have been developed for the generator to proceed to self-excitation. The control system is so regulated that at 1,600-1,800 rpm the generator develops maximum voltage, corresponding to the maximum transmissible moment. The clutch is set to begin engaging at 500-600 rpm, i.e. at minimum steady engine revolutions. The moment transmitted by the clutch thus increases proportionally to the

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D207/D306

Powder electromagnetic...

engine revolutions. To prevent the engine from stalling due to a too sudden start or during acceleration on uphill grades the system provides for some shift in the characteristics so that the power supply gives a decrease in the clutch moment in relation to the moment of the engine. The baffle plate pedal is connected to a switch which breaks the excitation winding circuit. The clutch can, therefore, be disengaged independently of the engine revolutions. Stand and road tests of the NAMI clutch have shown that the mechanical and electrical parts function reliably. After 10,000-15,000 km, however, the ferromagnetic mixture gradually loses its properties and must be replaced. The clutch engages smoothly and gently, makes driving easier and reduces driver fatigue. Comparative tests of the NAMI clutch and a normal friction clutch installed in a "Pobeda" car were made. With the friction clutch it was found that torsional moments exceeding the maximum engine torque developed in the power transmission (40% in excess during a smooth and 85% during a rapid start). With the powder clutch dynamic loading of the transmission was low and smooth. During a rapid start the torsional moment exceeded the maximum engine torque by only 20% and built up to its

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Powder electromagnetic...

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D207/D306

maximum over a period of 1 second compared to 0.18 second in the case of the friction clutch. There are 7 figures, 1 table and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-

language publications read as follows:

"Autocar", No. 3076, 12/XI 1954, pp 778-

780; No 3245, 28/II, 1958, p 303; "Auto-

car", No 3225, 11/X, 1957, p 535.

Fig. 5. The NAMI clutch: 1 - magnetic conductors; 2 - operating gaps; 3 - excitation winding; 4 - labyrinthal ring packing; 5 - driven element; 6 - current-carrying assembly (rings, brushes); 7 - primary gear-box shaft.

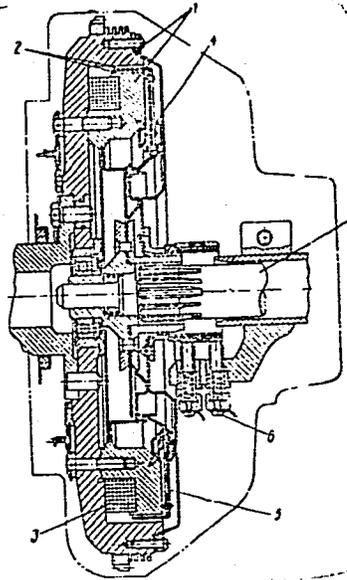


Рис. 5. Сцепление НАМИ:

1 — магнитопроводы; 2 — рабочие зазоры;  
3 — обмотка возбуждения; 4 — лабиринтное  
кольцевое уплотнение; 5 — ведомый элемент;  
6 — токоподводящее устройство (кольца, щетки); 7 — первичный вал коробки передач.

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S/028/61/000/002/004/006  
B116/B206

AUTHOR: Reznikov, A. V.

TITLE: Standardization and normalization at the establishments of the Leningrad sovnarkhoz

PERIODICAL: Standartizatsiya, no. 2, 1961, 16-21

TEXT: 26 of the 81 basic organizations for standardization and normalization are in Leningrad. In 1960, the organizations in Leningrad elaborated more than 300 projects for standards and standardized parts. The branch standard for the nomenclature of turbine vane- and radial-axial heavy water turbines was prepared at the Metallicheskiy zavod (Metal Plant). Experiments were conducted with models of new high-speed runners. 600 types of runners were replaced by 113, and 120 shafts by 22 in the course of standardization. The zavod "Elektrosila" ("Elektrosila" Plant) manufactures electric machines of from 0.1 to 320,000 kw. The basic standards, standardized parts and technical specifications for electric apparatus and low-voltage apparatus were elaborated with the participation of laborers of this plant. The otdel standartizatsii i normalizatsii

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Standardization and normalization...

S/028/61/000/002/004/006  
B116/B206

(OSN) (Department of Standardization and Normalization) consists of 42 members, and is to be increased to 80. The OSN organized a specialized design office for the standardization of assemblies and individual parts. The zavod im. Karla Marksa (Plant imeni Karl Marx) changed over to the manufacture of spinning equipment for chemical fibers, and standardized 34-43% of assemblies and individual parts for the new machines. An organization office for standardization was established at the Kirovskiy zavod (Kirov Plant) in 1959. The zavod "Vulkan" ("Vulkan" Plant) processes the technical data coming from the design and planning organizations, standardization and normalization being of utmost importance in this case. The Plants "Bol'shevik", imeni Kozitskogo (imeni Kozitskiy), Nevskiy im. Lenina (Nevskiy imeni Lenin), "Krasnaya zarya", "Vibrator", "Elektrik", im. Sverdlova (imeni Sverdlov), "Lenpoligrafmash", etc., are engaged in standardization and normalization work. The plan of standardization and normalization for 1960 provided for cooperation with the countries of the people's democracies. The Tsentral'noye konstruktorskoye byuro armaturostroyeniya (Central Design Office for Fittings Construction) jointly with the organs for standardization of Czechoslovakia participated in elaborating the main trends of type specification.

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Standardization and normalization...

S/028/61/000/002/0001/01/1  
3116/B206

standardization and normalization of fittings used in industry. In radio engineering, too often the most varied designs are used, so for instance at the "Kinap" Plant and at the TsKB Ministerstva kul'tury SSSR (TsKB of the Ministry of Culture USSR). In steam- and gas turbine construction, there are only two standards, or one standard, respectively. The fault lies with the Tsentral'nyy kotloturbinnyy institut (Central Institute for Boilers and Turbines), Metal Plant, "Ekonomayzer", and others. Beginning in the first quarter of 1961, the tentative specification confirmed by the sovnarkhoz becomes operative with regard to types when planning basic production. In 1961, standardization is to reach 32% at the zavod "Gosmetr" ("Gosmetr" Plant), 26% at the motornyy zavod (Engine Plant), 35% at the zavod morekhodnykh instrumentov (Plant of Nautical Instruments), and 30% at the konstruktorskoye byuro poluprovodnikovyykh i ultrazvukovyykh priborov (Design Office for Semiconductor- and Ultrasonic Instruments). In accordance with instructions by the Komitet standartov, mer i izmeritel'nykh priborov (Committee on Standards, Measures, and Measuring Instruments), the plan for 1961 provides for the manufacture of 5 types of potentiometers at the zavod "Lenteplopribor" ("Lenteplopribor" Plant) and meters of a new type at the LEMZ. The production of 13 different

Card 3/5

Standardization and normalization...

S/028/61/000/002/004/006  
B116/B206

automatic and semiautomatic machines for the control of ball- and tapered roller bearings, of photoelectric pickups, microindicators for the watch industry with a spacing of 0.005 mm, is provided for at the Leningradskiy instrumental'nyy zavod (Leningrad Tool Plant). The manufacture of single-spindle long automatic lathes with dimensions and parameters according to ГОСТ 8427-57 (GOST 8427-57) is provided for at the Leningradskiy zavod stankov-avtomatov (Leningrad Automatic Machine Plant), and the production of fittings according to ГОСТ 2704-59 (GOST 2704-59) at the armaturnyy zavod (Fittings Plant). Due to incompetent conduction of standardization work, the chief engineer of the zavod im. Kotlyakova (Plant imeni Kotlyakov) was ordered to pay an administrative fine, and the chief engineer of the Izhorskiy zavod (Izhorskiy Plant) was severely reprimanded. A permanent seminar was established where V. V. Tkachenko, L.V.Kuznetsov, K. D. Nikonov, G. S. Plis, S. S. Geydysh, and others, are lecturing. In 1959, the upravleniye radiotekhnicheskoy promyshlennosti (Administration of the Radioengineering Industry) established a branch laboratory for normalization and standardization. Standardization and normalization in machine construction was transferred by the sovnarkhoz to the NIITMASH, and in instrument construction to the NITI. The laboratoriya zubchatykh

Card 4/5

Standardization and normalization...

S/028/61/000/002/004/006  
B116/B206

zatsepleniy sovnarkhoza (Laboratory for Gear-tooth Systems) elaborated the technical principles for gear-tooth systems by Novikov. A sektsiya standartizatsii i normalizatsii (Section of Standardization and Normalization) consisting of 69 members was established at the tekhniko-ekonomicheskii sovet sovnarkhoza (Technical and Economic Council at the sovnarkhoz). In March and June 1960, a conference on the activation of work was arranged by the sovnarkhoz, which was attended by more than 600 persons. It is recommended to coordinate the activities of the Committee on Standards, Measures, and Measuring Instruments with those of the State Committees of the individual industrial branches at the Sovet Ministrov SSSR (Council of Ministers of the USSR). The organization of a branch of the VNIINMASH in Leningrad demanded by the sovnarkhoz was provisionally approved by the Committee on Standards. ✓

Card 5/5

REZNIKOV, A.S., inzhener.

Alkaline ferro-nickel batteries. Za rul. 15 no.1:15-16 Ja '57.

(MLRA 10:4)

1. Rukovoditel' laboratorii elektroagregatov nauchno-issledovatel'skogo avtomotornogo instituta.  
(Automobiles--Batteries)

REZNIKOV, A.V.

Standardization in the enterprises of the Leningrad Economic Council.  
Standartizatsiia 25 no.2:16-21 F '61. (MIRA 14:3)  
(Leningrad--Machinery industry--Standards)

REZNIKOV, A.Ye.

Methodology of comparing acoustic receivers and determining their directional diagrams in a standing wave field. Trudy inst. Kom. stand., mer i izm. prib. no.73:46-58 '63.

(MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy.

42070

3/589/62/000/061/004/005  
A061/A126

20.12.70

AUTHOR: Reznikov, A.Ye.

TITLE: The diffraction of light by nonuniform ultrasonic beams and its use in ultrasonic pressure measurements

SOURCE: USSR. Komitet standartov, mer i izmeritel'nykh priborov. Trudy institutov Komiteta. No. 61 (121). 1962. Issledovaniya v oblasti akusticheskikh i gidroakusticheskikh izmereniy. 64 - 78 f

TEXT: The Raman-Nath theory is used to calculate the diffraction of light by a field of quasiharmonic ultrasonic waves which are nonuniform as to amplitude and phase. A method is suggested for measuring ultrasonic pressures by reference points with corrections being introduced for their shift, according to experimental data of the phase of the front of a light wave emerging from the ultrasonic beam. Width and shape of the envelope of each diffraction maximum are found to depend on the nonuniform character of the ultrasonic beam and, unlike what happens in the Raman-Nath case, on the amplitude of ultrasonic pressure and the spectrum number. If the angular dimensions of the light source ex-

Card 1/2

L 3979-66 EWT(d)/EWT(1)/EEC(k)-2

ACCESSION NR: AP5022358

UR/0115/65/000/007/0040/0042  
534.232.001.5

48  
46  
B

AUTHOR: Reznikov, A. Ye.<sup>55</sup>; Snytko, A. Ya.<sup>55</sup>

TITLE: Measuring the coefficient of axial concentration of an ultrasonic radiator

SOURCE: Izmeritel'naya tekhnika, no. 7, 1965, 40-42

TOPIC TAGS: ultrasonic radiation, electronic measurement, antenna radiation pattern

ABSTRACT: The coefficient of axial concentration  $\Omega$  of a directional radiator is defined as the number which shows how much less power  $W_{\alpha}$  must be radiated by a directional transducer in a free field in comparison with the power  $W_{\alpha_0}$  radiated by a non-directional transducer to produce the same pressure at the same point in the field on the axis of radiation. A method is proposed for measuring  $\Omega$  by moving the radiator in space in such a way that the output voltage from a receiver with a square-law detector and a high time constant is identical in a certain region of space. This is equivalent to generation of a quasi-diffuse field by the radiator in this region of space. The unit for measuring the coefficient of axial concentration is a spherical duralumin chamber 1.5 meters in diameter filled with water containing

Card 1/3

L 3979-66

ACCESSION NR: AP5022358

a large number of conical reflectors. The receiver and radiator are suspended from a single crossbar which is moved in a complex pattern by an eccentric drive and elastic braces. This type of motion may be considered as approximately random. A block diagram of the experimental setup is shown in fig. 1 of the Enclosure. High-frequency voltage (10-100 kc) is fed either to the cylindrical radiator to be studied 2, or to spherical reference radiator 3. These radiators are isolated from the spherical receiving transducer 5 by soundproof baffle plate 4 which is fastened to the crossbar with the radiators. Voltage from the receiver is fed to band filter 6 for suppressing undesirable low frequency components caused by turbulence. The high frequency voltage from the filter output is fed through side-band attenuator 7 to high frequency amplifier 8 with detector 9. The detector output is coupled by d-c amplifier 10 to square-pulse shaper 11. The output from the shaper is connected by d-c amplifier 12 to RC integrating circuit 13. D-c microvoltmeter 14 is connected at the output of the integrating circuit. The experimental results are graphed and tabulated. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: EC, GP

NO REF SOV: 001

OTHER: 001

Card 2/3

L 3979-66

ACCESSION NR: AP5022358

ENCLOSURE: 01

2

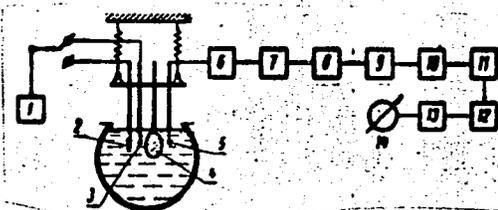


Fig. 1.

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Card 3/3

REZNIKOV, A.Ye.

Diffraction of light by nonhomogeneous ultrasonic beams and  
its use in measuring ultrasonic pressures. Trudy inst. Kom.  
stand., mer. i izm. prib. no.61:64-78 '62.

(MIRA 16:4)

(Sound--Apparatus)  
(Acoustical engineering)

L 58889-65 EEC(b)-2/EFF(c)/EPR/EWT(1)/EWT(m)/ENP(b)/T/ENP(t) PI-4/Pr-4/  
Ps-4 TJP(c) GG/JW/JD  
ACCESSION NR: AP5018994

UR/0286/65/000/012/0016/0016  
66.065

AUTHOR: Reznikov, B. A.

663  
663

TITLE: A method for annealing crystals. Class 12, No. 171854

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 16

TOPIC TAGS: crystal annealing, lithium fluoride

ABSTRACT: This Author's Certificate introduces a method for annealing crystals which have a yield stress, e.g. monocrystals of lithium fluoride. The annealing process consists of heating and subsequent cooling. The method is designed for speeding up the annealing process and raising the annealing temperature. Tempering stresses are reduced by non-isothermal relaxation of internal stresses during rapid heating (e.g. 20°/min for a plate thickness of 20 mm) to a temperature of the order of 600°C. At this temperature the value of the relaxed stresses becomes equal to the value of the original stresses before heating.

ASSOCIATION: none

Card 1/2

L 58889-65

ACCESSION NR: AP5018994

SUBMITTED: 11Apr63

ENCL: 00

SUB CODE: SS, IC <sup>0</sup>

NO REF SOV: 000

OTHER: 000

*KL*  
Card 2/2

L 3855-66 INT(1)/RQ/P-2/INT(1)/RJP(n)/RRC(k)-2/RPP(c) UJ(c) A T 90/GN

ACC NR: AP6007734

SOURCE CODE: UR/0293/66/004/001/0040/0046

AUTHOR: Reznikov, B. A.

ORG: none

TITLE: Two matrix forms for estimating the parameters of motion of space vehicles

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 1, 1966, 40-46

TOPIC TAGS: space navigation, matrix element, vector analysis, error correction, spacecraft trajectory

ABSTRACT: Two expressions are derived for estimating errors in the trajectory of a space vehicle on the basis of an a-priori knowledge of the motion parameter. Let  $\Delta q$  represent an m-dimensional vector for the deviation of the motion parameters from known values and  $\Delta h$  be the corresponding n-dimensional vector of the deviation in a set of measureable magnitudes. Then, for a linear combination

$$\Delta h = W\Delta q.$$

To obtain the maximum probable value of the vector q, the correlation vector  $K_n$  is introduced, and the two equivalent expressions are obtained

$$\hat{\Delta q} = \Delta q_n + (K_{11}^{-1} + V^T R_{22} V)^{-1} V^T R_{22} (\Delta h_n - W_2 \Delta q_n),$$

where

$$V = W_2 - K_{21} K_{11}^{-1}$$

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and

$$\Delta \hat{q} = \Delta \hat{q}_0 + \frac{1}{\sigma_2^2 + W_2 K_{11} W_2^T} K_{11} W_2^T (\Delta h_{11} - W_2 \Delta \hat{q}_0)$$

In these equations q is some preliminary value and the R's are linear combinations of the matrix  $K_{11}$ . An expression is also derived for the error matrix given by

$$K_q = K_{11} - K_{11} V^T (R_{22}^{-1} + V K_{11} V^T)^{-1} V K_{11}$$

The results are tabulated in a form such that the most rational form for estimating the necessary corrections can be made corresponding to a concrete example. Orig. art. has: 34 equations and 1 table.

SUB CODE: 03, 12/ SUBM DATE: 26Oct64/ ORIG REF: 005/ OTH REF: 002

Card 2/2 mcp

L 18750-66 EWF(1)/T IJP(c) GG

ACC NR: AP6003781 SOURCE CODE: UR/0181/66/008/001/0166/0171

AUTHORS: Zagoruyko, N. V.; Reznikov, B. A.; Tyapunina, N. A.;  
Khamidova, N. I.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Occurrence and motion of dislocations in NaCl crystal under the influence of thermoelastic stresses

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 166-171

TOPIC TAGS: sodium chloride, crystal dislocation phenomenon, thermoelasticity, stress distribution

ABSTRACT: The main purpose of the study was to determine whether the dislocation structure of a crystal is affected by non-uniformity of the temperature field and heating or cooling conditions and to determine the connection between the dislocation structure and the thermoelastic stresses which occur in NaCl crystals of small size heated to low temperatures (from room temperature to 40 -- 180C).

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L 18750-66

ACC NR: AP6003781

2

These conditions are least favorable for the occurrence of considerable stresses. The crystals contained  $10^4 \text{ cm}^{-2}$  dislocations in the initial state. The dislocations were disclosed by selective etching. The thermoelastic stresses were measured by a polarization-optical method. Measurements of the residual stresses in the samples show that even for the small sizes ( $\sim 3 \times 5 \times 20 \text{ mm}$ ) and low temperatures, the thermoelastic stresses that can arise exceed the elastic limit and cause motion and multiplication of dislocations. The authors thank Ye. G. Shvidkovskiy for interest in the work and a discussion of the results, and V. L. Indenbom for valuable advice and remarks. Orig. art. has: 5 figures and 2 formulas.

SUB CODE: 20/ SUEM DATE: 22Apr65/ ORIG REF: 010/

Card 2/23m

REZNIKOV, B.A.

Relaxation of residual stresses in the annealing of single crystals  
of alkali halide compounds. Kristallografiia 8 no.5:808-811 S-O  
'63. (MIRA 16:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

RESEARCH

ISSUE I BOOK EXPIRATION 007/0042

Leningrad, University

Polymerase-epitaxially method isodromalya neprybnymi trydy kondensatell  
19-21 February 1968 (Optical Polarization Method for Stress Analysis)  
from the Conference of February 19-21, 1968. (Leningrad) 18 pp.  
"Miroslavskaya ulitsa", 1960. 151 p. Errata slip inserted. 2,400 copies printed.

Rep. No. 1. G.P. Subbotnikov; Ed. I. V. Gubonina; Tech. Ed.: G.P. Subbotnikov;  
Material Board: S.O. Orlov, L.M. Koshov, V.M. Koshov, T.D. Koshov,  
E.I. Pridorovskiy, V.M. Pridorov, R.B. Koshov, and T.I. Eduliberg.

REMARKS: This collection of 99 articles is intended for scientists and engineers  
concerned with experimental stress analysis of machine parts and structural  
components.

COMMENT: The collection contains reports presented at the conference on optical  
polarization methods in stress analysis held February 19 - 21, 1968, in the  
Leningrad and attended by 328 delegates including representatives of the  
Republic of Cuba, the Polish People's Republic, the German Democratic Republic,  
and the Republic of Czechoslovakia. The reports discuss general theoretical

problems and new methods of investigation and describe apparatus and materials  
used in the optical method. Solutions of specific two-dimensional and three-  
dimensional problems occurring in helicopter rotor aircraft design, engine con-  
struction, in various branches of metallurgy and in the design of structural  
materials, hydraulic stress of stresses in products of the glass and electronic  
technology, in the design of solution of the three-dimensional problem by means  
of the method of photoelasticity is introduced and the use of this method for  
the solution of problems associated with plasticity, creep, dynamics, hydro-  
dynamics, etc., is demonstrated. Reports previously published elsewhere are  
printed here in abbreviated form. No personal files are mentioned. References  
are found at the end of the reports.

Optical Polarization Method (cont.)

II. VARIOUS TYPES OF APPLICATION OF THE OPTICAL POLARIZATION METHOD

- 35. Johnson, J. L., and J. A. Egan. Use of the Optical Polarization Method for Stress Analysis in the Manufacture of Glass Objects and in Checking Their Quality 136
- 36. Johnson, J. L., and J. A. Egan. Investigation of Local Stresses Existing in the Heat Treating of Glass 137
- 37. Johnson, J. L., and A. Y. Egan. Investigation of Flaws in Metal Bars by Stress Concentration by the Optical Method 139
- 38. Subbotnikov, G. P. The Optical Method as an Illustration in the Course on Strength of Materials 146

EVALUATE: LIBRARY OF CONGRESS

Card 12/12

MC/r/saw  
8-19-60

L 03780-97 EWT(1)/ENP(m) GW

ACC NR: AP6028332

SOURCE CODE: UR/0293/66/004/004/0535/0544

AUTHOR: Reznikov, B. A.

ORG: none

TITLE: Application of the method of dynamic filtration to determine spacecraft trajectories

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 535-544

TOPIC TAGS: spacecraft trajectory, ~~dynamic filtration, method, information processing, velocity deviation estimation, position deviation estimation~~

ABSTRACT: Algorithms for processing celestial measurement data to determine the trajectories of space vehicles are analyzed. The following two groups are considered: 1) algorithms for obtaining estimates of deviations in position and velocity of the space vehicle from the reference path after a complete measurement sample for a given phase of flight is obtained; 2) algorithms that make it possible to obtain a current best estimate to be combined with newly acquired information and produce a still better estimate (dynamic filtration algorithms). Only particular characteristics of the first group of algorithms are analyzed, but the main attention is paid to studying the second group of algorithms which are directly related to the method of dynamic programming and the theory of Markov processes. The following new results are obtained: 1) peculiarities of algorithms and conditions for obtaining equivalent

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UDC: 629.191

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ACC NR: AP6028332

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estimates are established; 2) rules for selecting initial data necessary for introducing computers into the dynamic filtration process are formulated; 3) basic cases of applying the dynamic filtration method to determine trajectories are analyzed and corresponding systems of algorithms are constructed; 4) the possibility of combining several methods for information processing is substantiated by utilizing the universal properties of the dynamic filtration algorithm. The connection between the estimates obtained by dynamic filtration algorithms and the estimates from other algorithms is established on the basis of two particular matrix forms of generalized estimates. The advantages of the dynamic filtration algorithm are indicated. Orig. art. has: 30 formulas. [LK]

SUB CODE: 03/ SUBM DATE: 23Jul65/ ORIG REF: 008/ OTH REF: 004/ ATD PRESS:

5062

Card 2/2

*Handwritten initials*

REZNIKOV, Boris Ivanovich, inzh.; LACHINOV, N.V., inzh., red.; LARIONOV,  
G.Ye., tekhn. red.

[Manual for the assembly of the machine-room equipment of a thermal  
electric power plant] Pamiatka slesaria po montazhu oborudovaniia  
mashinnogo zala teplovqi elektrostantsii. Moskva, Gos. energ. izd-vo.  
No.3 [Assembly of condensers, ejectors, heaters, boilers, evaporators  
and deaerators] Montazh kondensatorov, ezhektorov, podogrevatelei,  
boilerov, isparitelei i deaeratorov. 1960. 52 p. (MIRA 14:9)  
(Electric power plants--Equipment and supplies)

REZNIKOV, B.I. (Leningrad); SMYSLOV, Yu.N. (Leningrad)

Method for determining friction and heat flow in self-similar  
boundary layer problems. PMTF no.1:53-58 Ja-F '64. (MIRA 17:4)

BR

ACCESSION NO: AP4022650

S/0207/64/000/001/0053/0058

AUTHORS: Reznikov, B. I. (Leningrad); Smy\*sllov, Yu. N. (Leningrad)

TITLE: Method for determining friction and heat flow in self-modeling problems of a boundary layer

SOURCE: Zhurnal priklad. mekhan. i tekhn. fiz., no. 1, 1964, 53-58

TOPIC TAGS: friction, heat flow, self-modeling problem, boundary layer, multi-parametric boundary problem, machine time, successive approximations, quadrature, iteration scheme, Blazius equation, Fokner-Sken equation

ABSTRACT: The authors propose a method for determining friction and heat flow not involving numerical integration of the boundary layer equations. They study the boundary value problem

§1. Consider

$$f^{(n)} + R[f, f', \dots, f^{(n-1)}] = 0 \tag{1}$$

$$f = a_0, f' = a_1, \dots, f^{(n-2)} = a_{n-2} \text{ for } \eta = 0, f^{(n-1)} = b \text{ for } \eta \rightarrow \infty \tag{2}$$

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ACCESSION NR: AP4022650

The proposed method allows them to reduce this problem to a Cauchy problem, which is essential for the use of numerical methods. Several examples of the method are given. The authors study the isothermal Blasius problem, getting some specific error bounds. They treat more complicated cases, like that of magnetohydrodynamic fluid flow with constant electrical conductivity in a neighborhood of a two-dimensional critical point in the presence of blowing in, and find some specific error bounds. They investigate a system of equations describing flow around the critical point by a compressible gas in the presence of blowing in. Comparisons show that for a more complicated case of the system of related equations the proposed methods allow computation of friction and heat flow fairly precisely. Orig. art. has: 2 tables and 49 formulas.

ASSOCIATION: none

SUBMITTED: 21Jul63

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: AI

NO REF SOV: 004

OTHER: 004

Card 2/2

L 13811-65 EWP(1)/EWP(m)/EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EWP(t)/EPA(bb)-2/FCS(k)/  
EWP(b)/EWA(1) Pd-1/Pr-4/Ps-4/Pi-4/Pu-4 AEDC(a)/ESD/SSD/AFWL/AS(mp)-2/AFETR/  
ASD(f)-2/AFTC(a)/ASD(d)/AFTC(p)/ESD(dp) EW/WW/JD/JW/RM  
ACCESSION NR: AP4047316 S/0020/64/158/004/0798/0801

AUTHOR: Reznikov, B. I.; Tirskiy, G. A.

TITLE: Generalized analogy between mass-transfer coefficients in a laminar, multicomponent boundary layer with an arbitrary pressure gradient

SOURCE: AN SSSR. Doklady\*, v. 158, no. 4, 1964, 798-801

TOPIC TAGS: mass transfer, heat transfer, laminar boundary layer, boundary layer, effective diffusion coefficient, Fick law, diffusion equation

ABSTRACT: Similarity of the mass-transfer coefficients is generalized for the case of a multicomponent gas flow in a boundary layer with an arbitrary pressure gradient and arbitrary distribution of mass injection along the surface. By using the concept of effective diffusion coefficients introduced in the author's previous work (Doklady\* AN SSSR, v. 155, no. 6, 1964), the diffusion equations of the components are established in ordinary form but with their variable diffusion coefficients, derived by using the Fick law. The equations are

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ACCESSION NR: AP4047316

solved by the method of asymptotic integration with  $S_i \rightarrow \infty$  ( $S_i$  - Schmidt number) and with moderate injection along the surface of the body, called the method of steepest descent by D. Meksyn. It is shown that the relations between mass-transfer coefficients retain the structure established for self-similar solutions, though the values contained depend now on the longitudinal coordinate. The dependence upon body shape is weak. In particular, the generalized similarity of mass- and heat-transfer coefficients is obtained by the same method when the mixture consists of gases with nearly similar heat capacities or when one component has a very different heat capacity from the others. Orig. art. has: 18 formulas.

ASSOCIATION: none

SUBMITTED: 03Jun64

ATD PRESS: 3131

ENCL: 00

SUB CODE: ME

NO REF SOV: 002

OTHER: 001

Card 2/2

REZNICHENKO, B.S.; PIRSKIY, G.A.

Generalized analogy between the mass transfer coefficients in a laminar multicomponent boundary layer with an arbitrary pressure gradient. Dokl. AN SSSR 158 no.4:798-801, 6 '64.

1. Predstavleno akademikom I.I. Sedovym.

(MIRA 17:11)

L 38961-65 EWT(1)/EWP(e)/EWP(m)/EWT(m)/EPF(c)/EWG(v)/EWA(d)/EPR/EWP(j)/  
FCS(k)/EWP(b)/EWA(1) Pc-4/Pd-1/Pe-5/Pq-4/Pr-4/Ps-4/Pt-4 IG/WW/RM/WH  
ACCESSION NR: AP5008500 3/0201/64/000/006/0069/0076  
65  
B

AUTHOR: Reznikov, B. I. (Leningrad)

TITLE: Unsteady state destruction of glass-like materials in a supersonic gas stream

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1964, 69-76

TOPIC TAGS: ablation, <sup>16</sup>stagnation point, temperature profile, quartz, supersonic flow, viscosity, boundary layer, unsteady flow

ABSTRACT: The unsteady state disintegration of glass-like materials at the stagnation point in a supersonic stream was studied, and approximate equations were obtained for mass loss and temperature profiles. The molten glassy layer is assumed to behave like a homogeneous, incompressible, constant property material except for a variable viscosity coefficient  $\mu_1 = \mu_1(T) = \mu_1^* \exp\left(\frac{T^*}{T}\right)$ . The equations of motion for the two-phase flow are written together with the mass conservation law. It is shown that the melt flow does not affect the heat transfer or the viscous forces in the boundary layer and that the fundamental equation is that which relates the rate of material loss to the surface temperature. To within a second order expansion in

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 ACCESSION NR: AP5008500

$e^{-x}$  the mass loss rate is given by

$$\varphi_1(\infty) = d_2 = \exp(-\theta_0^{-x}) \left[ \frac{\theta_0^{x+1}}{xh^*(\theta_0 - \theta_s)} \right]^2 \left[ l_0^{-1/h} C \tau^* + 2 \frac{\theta_0^{x+1}}{xh^*(\theta_0 - \theta_s)} \right] + a_1$$

$$C = r_1^{1/2} n_1^{1/2} (\sigma_1 n)^{1/2}$$

The temperature field is obtained by integrating the energy equation which yields

$$\tau = \int_0^x f_0 \left[ \frac{2-f_0}{1-f_0} - f_0 \frac{d \ln h^*}{df_0} \right] \frac{df_0}{h^{*2} (1-f_0) [1-f_0(1+\delta/h^*)]} .$$

Numerical calculations are given for a

quartz surface dissociation according to the law  $(SiO_2)_T \rightarrow (SiO)_T + \frac{1}{2}O_2 + Q_0$  under the conditions:  $h = 4700$  cal/mol,  $p_e = 0.13$  atm, and  $R = 0.86$  cm. Throughout the solution the boundary layer is assumed to be in a steady state flow and the disintegration of the glassy material to be an unsteady state process. Orig. art. has: 43 equations.

ASSOCIATION: none

SUBMITTED: 10Jun64

ENCL: 00

SUB CODE: ME

NO REF SOV: 006

OTHER: 002

Card 2/2 ml

1. 32249-65 EPA(s)-2/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pt-10/Pu-1 JD/WH/JG

ACCESSION NR: AP5005768

8/0170/65/008/001/0093/0097

AUTHOR: Reznikov, B. I.

TITLE: Melting of a metallic body in the vicinity of the critical point

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 8, no. 1, 1965, 93-97

TOPIC TAGS: stagnation point, heat transfer, Taylor series, melting, gas liquid flow, laminar flow, boundary layer, boundary value problem, melting rate, ablation

ABSTRACT: The melting of a blunt metallic body in the vicinity of the critical point was investigated analytically. It was assumed that the effect of the motion of the molten film on heat transfer could be neglected, that the film is incompressible, and that it has constant thermophysical properties. The coordinate system is taken at the gas liquid interface moving toward the body with speed  $w$ . The nonlinear governing equations and the boundary conditions are given by

$$f'' + 2ff''' = f'' + 1.$$

$$\theta'' + 2Pr_2 f \theta' = 0.$$

$$z = 0, f = 0, f'' = b, \theta_0 = \frac{\alpha}{\lambda_2} \left( \frac{v_2}{\beta_2} \right)^{1/2} (\theta_1 - \theta_0).$$

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$$z = - \left( \frac{\beta_2}{\nu_2} \right)^{1/2} \delta \equiv a, \quad f = 0, \quad \theta = 1, \quad \theta'_a = -2\mu_2 \lambda_2^{-1} T_{na}^{-1} Q_0 f(a),$$

where  $\theta_i = T_i/T_{na}$ ,  $\theta_0 = T(0)/T_{na}$ ,  $b = A_1 \nu_2^{1/2} / \mu_2 \beta_2^{1/2}$ . The unknowns of the problem are  $\theta_0$  and  $a$ . To these equations is added a heat balance equation at the body surface

$$-2(\beta_2 \nu_2)^{1/2} \rho_2 Q_0 f(a) = [\alpha T_{na} (\theta_i - 1)] \lambda_2 (\lambda_2 - \alpha (\nu_2/\beta_2)^{1/2}) \times$$

$\times J(a)^{-1} \exp\left(-2Pr_2 \int_0^a f dz\right)$ , and the resulting set is solved approximately by

using the Taylor series expansion of  $f$  around the point  $z = 0$ . Values of  $f(a)$  calculated in this manner depart from those obtained numerically by only 1%. A simple expression for the melting rate  $w$  is given by  $w = CM^2 \sqrt{P}$  where  $C$  is a constant and depends on the material, flow medium, and geometry of the metallic body. These results are then used to determine the melting rate of a body surface flying at a constant altitude but with a variable speed. This yields  $A = \frac{CM_0^{n-1} \sqrt{\rho}}{Ba^n (n-1)} \left[ 1 - \left( \frac{M_L}{M_0} \right)^{n-1} \right]$ ,  $a^* = \frac{v}{M}$ .

An expression is also derived for the pressure at maximum melting rate. Orig. art. has: 29 formulas. [04]

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ACCESSION NR: AP5005768

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe, Leningrad (Physico-technical Institute)

SUBMITTED: 11Mar64

ENCL: 00

SUB CODE: ME, TD

NO REF SOV: 004

OTHER: 002

ATD PRESS: 3204

Card 3/3

ACC NR: AT7005301

SOURCE CODE: UR/2563/66/000/265/0060/0064

AUTHOR: Reznikov, B. I.

ORG: none

TITLE: Determining the steady state ablation parameters of glassy materials

SOURCE: Leningrad. Politeknicheskii institut. Trudy, no. 265, 1966.  
Gidrogazodinamika (Hydraulic and gas dynamics), 60-64

TOPIC TAGS: supersonic aerodynamics, ablation, boundary layer, enthalpy, friction  
heat transfer, ablative material, ablative heat shield, QUARTZ, GLASS,  
BOUNDARY LAYER PROBLEM

ABSTRACT: After a brief critical review of previous works on the determination of steady-state ablation parameters of glassy materials, the author outlines a new procedure which is based on separate determination of boundary layer and liquid layer parameters by solving a system of transcendental equations derived by G. Tirskey (Prikladnaya matematika i tekhnicheskaya fizika. no. 6, 1961) where the dependence  $d-\alpha_1$  and  $\theta'_0$  are represented in the form of tabulated functions of the parameters  $\theta_0$  and  $\epsilon_1$ . The results from calculating ablation parameters by this method are compared with experimental data on ablation of quartz-glass models in high temperature gas flows in supersonic nozzles. It is concluded that the proposed procedure for solving the equations of liquid layer makes it possible to represent

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UDC: none

ACC NR: AT7005301

the solution in the form of nomograms suitable for engineering computations. Moreover, since the determination of liquid layer parameters does not depend on calculation of the boundary layer, the results obtained here may be used for determining the ablation parameters of more complex materials. Orig. art. has: 17 formulas and 2 tables. [WA-52]

SUB CODE: 20/ SUBM DATE: none / ORIG REF: 002/ OTH REF: 003

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REZNIKOV, B.I. (Leningrad)

Nonstationary fracture of vitreous materials in a supersonic gas  
flow. PMTF no. 6869-76 N-D '64 (MIRA 1882)

L 57551-65 EWT(1)/EWP(m)/EPR/FCS(k)/EWA(1) Pd-1/Pi-4 WW

ACCESSION NR: AP5018199

UR/0207/65/000/003/0085/0088

AUTHOR: Reznikov, B. I. (Leningrad); Smyslov, Yu. N. (Leningrad)

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B

TITLE: Investigation of equations of the laminar boundary layer of compressible gas near the stagnation line

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1965, 85-88

TOPIC TAGS: compressible gas, laminar boundary layer, stagnation point, asymptotic method, skin friction, heat transfer, injection parameter

ABSTRACT: A system of equations describing a laminar boundary layer in a compressible gas flow in the region of the stagnation line is investigated. The physical properties of the gas are defined as functions of the temperature. A system of equations for skin friction and heat transfer are obtained by repeated integration, with boundary condition taken into account; the accuracy with which their magnitude is determined does not depend on the parameter of gas injection into boundary layer. Since the numerical solution of the initial system of equations is known for a limited number of parameters, the analytical expressions presented here make it possible to trace the influence of each parameter separately. The accuracy of the

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computations is ascertained through evaluating successive terms of asymptotic transformations. A comparison with the numerical solutions for certain parameters shows satisfactory agreement. Orig. art. has: 22 formulas and 3 tables, [AB]

ASSOCIATION: none

SUBMITTED: 15Jun64

ENCL: 00

SUB CODE: ME

NO REF SOV: 003

OTHER: 001

ATD PRESS: 403D

*87P*  
Card 2/2

REZNIKOV, B.I.

Fusion of a metal body near the critical point. Inzh.-fiz.  
zhur. 8 no.1:93-97 Ja '65. (MIRA 18:3)

1. Fiziko-tekhnicheskiy institut imeni Ioffe, Leningrad.

REZNIKOV, B.I., inzh.

Rational method of erecting turbine supports on the foundations.  
Energ. stroi. no.1:18-21 '59. (MIRA 13:2)

1. TSentroenergomontazh.  
(Turbines)

FAYNZIL'BERG, E.M., doktor tekhn. nauk, prof.; REZNIKOV, B.L., dots.,  
retsenzent; MAKHON'KO, M.G., dots., retsenzent; SOLOV'YEVA,  
N.P., red.; KLEYMAN, L.G., tekhn. red.

[Internal combustion engines (fundamentals of the theory and  
their parts); lecture course] Dvigateli vnutrennego sgoraniia  
(osnovy teorii i elementy konstruksii); kurs lektsii. Mo-  
skva, Vses. zaachnyi in-t inzhenerov zhel-dor. transporta,  
1961. 74 p. (MIRA 15:8)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo tran-  
sporta im. I.V.Stalina (for ~~Reznikov~~, Makhon'ko).  
(Gas and oil engines)

ALSHINBAYEV, M.R.; AMELIN, V.P.; ANDRIANOVA, O.V.; GASIYEV, Zh.;  
DEGRAF, G.A.; INKAREKOV, A.B.; KOLOMYTSEV, I.V.; KOLTUSHKIN,  
I.S.; MALAKHOV, V.P.; MONASTYRSKIY, A.O.; REZNIKOV, B.N.;  
SAKHAROV, I.V.; SENNIK, V.K.; SOSNIN, V.A.; SURKO, V.I.;  
SURKOV, Ye.P.; SYRLYBAYEV, S.N.; USIKOV, N.V.; UCHAYEV, A.F.;  
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red.

[Study manual for a machinery operator] Uchebnik-spravochnik  
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1. Alma-Ata, Kazakhskiy gosudarstvennyy sel'skokhozyaystven-  
nyy institut. Fakul'tet mekhanizatsii. 2. Sotrudniki fakul'-  
teta mekhanizatsii Kazakhskogo gosudarstvennogo sel'sko-  
khozyaystvennogo instituta (for all except Sherman, Gorokhov).  
(Agricultural machinery)

REZNIKOV, B.N., kand. tekhn. nauk; BRYAZGUNOV, A.V., inzh.;  
SOSNIN, V.A., kand. tekhn. nauk; YEGOROVA, V., red.  
GRIGOR'YEV, A., red.  
[Handbook of a repairman] Spravochnik remontnika.  
Alma-Ata, Izd-vo "Kainar," 1964. 257 p. (MIRA 18:1)

REZNIKOV, B. N., Cand. Tech. Sci. (diss) "Investigation of Centrifugal Cleaning of Lubricants," Alma-Ata, 1961, 23 pp. (Combined Council for Kazakh. State Agri. Inst.) 200 copies (KL Supp 12-61, 272).

BOYTSOV, A.A., inzh., REZNIKOV, B.S., inzh.

Controlling the direction of holes by the method of rope  
lengths. Stor. DonUGI no. 31:49-61 '63. (MIRA 17:10)

BOYTSOV, A.A., inzh.; ONUFRIYEV, Yu.V., inzh.; REZNIKOV, B.S., inzh.;  
ROMANENKO, F.D., inzh.

Device for regulating the direction of the motion of rock drills.  
Ugol'.prom. no.4:63-67 J1-Ag '62. (MIRA 15:8)

1. Donetskii nauchno-issledovatel'skiy ugol'nyy institut.  
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REZNIKOV, D.I., inzh.; MASSAL'SKIY, E.A., inzh.

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(Keramzit)

REZNIKOV, David Isayevich, jt. comp.

The most important and most significant. Sostavili F. Mikhailov i D.Reznikov. Pod redaktsiei N.Konstantinova. 2.izd. Moskva, Profizdat, 1934. 242 p.

VOROBIN, L.D.; REZNIKOV, D.M.

New welding tip for an A-489 automatic welding head. Lit.  
proizv. no.6:39 Je '63. (MIRA 16:7)

(Electric welding—Equipment and supplies)

REZNIKOV, D.N.

Durability of blast furnace hearth bottoms. Metallurg 7 no.12:9-10  
D. 162. (MIRA 15:12)

(Blast furnaces--Design and construction)

REZNIKOV, D.N., inzh.

Using 75-m high derrick cranes in assembling large-block  
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REZNIKOV, D. N.

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